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SANITARY SCIENCES THROUGHOUT THE WORLD.

EDITED BY

CHARLES E. MAJOU, M.D.,



SEVENTY ASSOCIATE EDITORS,

OVER TWO HUNDRED CORRESPONDING EDITORS, COLLABORATORS,  
AND CORRESPONDENTS.

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stance which is especially inconvenient, on obvious grounds, in the case of pet dogs. Our corresponding editor, Moncorvo, of Rio de Janeiro,<sup>673 Oct</sup> has experimented with pyoktanin on children, in order to determine the antiseptic properties of the drug. Of the different pyoktanins, he gives preference to auramin, or yellow pyoktanin. In many cases of syphilitic ulcerations the application of the powder has seemed to hasten cicatrization, the patient meanwhile, however, taking mercury and the iodides. The use of pyoktanin-pencils in fistulous tracts left in incompletely cicatrized abscesses gave good results. No toxic effect from absorption of the drug was observed.

*Animal Extracts.*—That spermatotherapy is progressing in France is apparent from a recent contribution by Brown-Séquard,<sup>916 98</sup> who details his own experience and that of others. Out of thirty-nine cases of locomotor ataxia treated by the injection of testicular fluids, thirty-one were either greatly benefited or completely cured. The other eight cases received no benefit or a very slight one. Success was also reported in the treatment of tuberculosis, diabetes, anæmia, neurasthenia, and numerous affections associated with nervous debility. Cases of myxœdema were treated by injections of the juice extracted from the thyroid gland, with cure in three cases after a treatment of ten days. It is also stated that Addison's disease is being combated in a similar manner with a liquid obtained from healthy supra-renal capsules and with that furnished by the testicles of rams. Improvement follows after a few days of treatment, but the bronze color of the skin undergoes no change. It seems that in France the profession have accepted with enthusiasm the method proposed by the author, and that the new treatment is becoming more and more generally used. A cure of locomotor ataxia in a fencing-master was reported to the Société de Biologie, June 4th,<sup>3</sup> June 8;<sup>2</sup> June 25 as an example of the action of testicular juice hypodermatically injected. The muscular energy, the precision, and strength of the movements, as also the power of resisting fatigue were remarkable in the patient, who was practically restored to full health. Another case of the same nature, in a soldier, was reported by Depoux. This patient was completely cured by the treatment in the course of five months, although his patellar reflexes still remained absent. A third similar case was stated by Brown-Séquard to have been cured by

Gibert, of Havre. Brown-Séquard further stated that Owspenski, of St. Petersburg, informed him of cures or marked improvement in twenty-nine out of thirty-six cases of locomotor ataxia treated with the testicular juice.

A chemical examination of the testicular juice has been undertaken by Poehl,<sup>760</sup><sub>Sept. 8</sub> whose observations have been communicated to the Académie des Sciences. The author has been able to recognize, besides lecithin, nuclein, and numerous leucomaines, a considerable proportion of spermin. The action of spermin, which is a tonic and nervine, is explained, according to Poehl, by oxidating processes, during which the extractives disappear. Thus, the more rapid the oxidation of the leucomaines, the more complete the disappearance of extractives, and hence the sensation of general *bien-être* which patients experience, and which most clinicians have observed. Pulawski,<sup>673</sup><sub>Jan.</sub> who has given some attention to the subject, believes that no definite idea can yet be formed in regard to the method of treatment proposed by Brown-Séquard. This writer and many other physicians who have employed the method in practical medicine have supposed that the injections produced tonic and excitant effects, the various observations numbering over three hundred. Pulawski himself has made a series of clinical observations at the Child Jesus Hospital, at Warsaw, on twelve patients, the diseases comprising three cases of marasmus senilis, two of tabes, two of impotentia virilis, arthritis deformans, dyspepsia nervosa, enuresis nocturna, convalescence from typhoid fever, and even one case of nephritis. From the results obtained, he draws the following conclusions: (1) local pain and abscess developed twice; (2) fever, with chills, appeared very frequently, with excitement (which was also observed by other clinicians); (3) specific action was never observed; (4) subjective and positive amelioration were dependent upon suggestion. He mentions one case, however, in which the typical symptoms described by Brown-Séquard were noticed after injecting milk. Pulawski warns against the use of spermin as it appears upon the market, on the ground that it is unreliable.

Capriati,<sup>589</sup><sub>July 1</sub> also, has studied the therapeutic effects of the injections of testicular juice; first in four cases of insanity, the patients suffering from acute forms of mental disease, with depression; and next in healthy persons. In the former series of cases,

after sixteen days of treatment, no real modification of the morbid state, bodily or mental, was ever observed. In all of them, however, throughout the treatment, and especially in the first few hours immediately following an injection, a definite effect was clearly produced on the cardio-vascular apparatus. This consisted in the strengthening of the heart's impulse and an increased tonicity of the walls of the blood-vessels. These effects ceased on the discontinuance of the treatment. In the case of the healthy patients, it was chiefly the effect on the muscular power that was studied; the results were entirely negative. From these experiments, Capriati concludes that the testicle-juice has no dynamogenic influence on the nerve-centres, its effect being limited to temporary stimulation of the nervous system. He attributes the wonderful effects reported by other observers not to the action of substance, but to the influence of a powerful psychical factor such as suggestion. Other papers bearing upon the subject of Brown-Séquard's method of treatment may be found as follows: Henri-jean<sup>293</sup><sub>Mar.</sub>; W. D. Waterhouse<sup>2</sup><sub>Jan. 20</sub>; A. G. Bagroff<sup>586</sup><sub>No. 9</sub>; Bra<sup>290</sup><sub>Feb. 22</sub>; Ernest Magnant<sup>67</sup><sub>Dec. 30, '91</sub>; H. F. Meier, of California<sup>77</sup><sub>Sept.</sub>; and Jules Dauriac, of Paris.<sup>100</sup><sub>July 2</sub>

Following the researches of Constantine Paul, Marechal<sup>288</sup><sub>May 8</sub> has practiced injections of nerve-substance, without having observed a single instance of local inflammation. The material employed was carefully-prepared cerebral substance, ten days old. The patients experienced a slight sensation of heat for about ten minutes after the injection. The reaction was characterized by only a little cerebral excitation on the day of the injection and on the following one, and there was no increase in the body temperature. The treatment was employed in cases of chloro-anæmia, chlorosis, neurasthenia, and ataxia. In three cases of cerebral neurasthenia the most favorable results were obtained. One of the cases was that of a literary man, who, as a consequence of intellectual overwork, suffered terribly from loss of memory, headache, pain over the lumbo-sacral region, lumbago, marked muscular asthenia, constant fatigue, insomnia, frequent seminal emissions, loss of sexual appetite, gastro-intestinal atony, and pronounced depression of spirits. Two injections were employed weekly, beginning with 1 cubic centimetre (15 minims) each, and with the gradual increase of 1 cubic centimetre (15 minims) each time.



After the third injection—that is, after 3 cubic centimetres (45 minims) of the remedy—had been administered the patient complained, in the morning, of only slight headache and lumbago. The following night he slept well; in the morning he felt better, and noticed that the lumbar pain had disappeared. The patient afterward received eight injections a week, of 5 cubic centimetres (80 minims), a complete transformation having occurred in the meantime. Sleep had become normal, intellectual work was now easy, and the return of the usual gay spirits of the patient was a special feature. The other cases, with few exceptions, were similar in nature, and the same happy results were obtained. Favorable results are also claimed to have been observed in functional disorders of the nervous system. Marechal has many ataxic cases under the new treatment, two of which he affirms have been benefited. F. Altamirano, of Mexico, <sup>179</sup><sub>July 1</sub> has reported a case of pernicious anæmia apparently ameliorated by the subcutaneous injections of serum prepared from the blood of the dog, the doses being 5 cubic centimetres (80 minims) each. The patient experienced great relief; her strength improved, and other disagreeable symptoms, such as insomnia and delirium, were lessened. Other medicaments, however, were combined with the injections, such as iron, strychnine, and arsenic, together with electric and lukewarm-water baths.

Behring, <sup>6</sup><sub>July 23</sub> well known for his studies on immunity against traumatic tetanus and diphtheria, has endeavored to prove, in a recently-published treatise, that the blood-serum of animals rendered immune by treatment with cultures acted on by trichloride of iodine cures other animals infected by disease and renders healthy ones immune. He has applied successfully such a method in traumatic tetanus and diphtheria, and now says that one of his co-laborers has been equally successful in diseases caused by streptococci.

*Antifebrin*.—See Acetanilid.

*Antimony*.—Harnack <sup>34</sup><sub>Mar. 16</sub> says that antimony has been superseded by other drugs in almost all instances. Apomorphine has supplanted it as an emetic, although one disadvantage of apomorphine is the collapse sometimes produced by it. As a diaphoretic there are many more suitable agents, and antimonial preparations have been quite abandoned in the treatment of fevers,

owing to the cardiac depression produced by them. Harnack thinks that there is no sufficient reason for continuing the use of tartar emetic.

*Antinervin.*—It is stated<sup>6</sup><sub>Feb. 12</sub> that antinervin was employed efficaciously in a recent epidemic of influenza in Glogaw. The drug, it was observed, alleviated the pains in the head and back, and caused lowering of the body temperature, accompanied by copious perspiration. No untoward effects were noticed. Eight powders of  $\frac{1}{2}$  gramme ( $7\frac{3}{4}$  grains) each, taken in two days, were generally sufficient to arrest the disease. The remedy appears also to have given satisfactory results in the Royal Clinics of Turin and Genoa. It has also been recommended by Laurenti<sup>152</sup><sub>July 16</sub> as a succedaneum of antipyrin, as a specific against neuralgias, and in articular rheumatism. The author believes it to be useful, besides, in febrile diseases, such as typhoid fever, tuberculosis, pneumonia, and others. He has used it in fifty cases, the majority being of influenza, some of rheumatic polyarthritis, and one of chorea. The initial dose employed was 0.50 gramme ( $7\frac{3}{4}$  grains) given in cachets, repeated four times in the course of the day; and, later, as much as 4 grammes (62 grains) were administered in the twenty-four hours. In robust persons he has given 1 and even 1.5 grammes ( $15\frac{1}{2}$  and even  $23\frac{1}{4}$  grains) at a single dose. The author observed, in the patients treated with the drug, after the ingestion of the first two doses, an amelioration of headache, lumbar pains, myalgias, and gastralgias. The temperature was lowered from  $1^{\circ}$  to  $1.5^{\circ}$  C. ( $1.8^{\circ}$  to  $2.7^{\circ}$  F.). The drug was of no avail in chorea. As a whole, the best results were obtained in influenza and in articular rheumatism.

*Antipyrin.*—Saint-Hilaire and Coupard<sup>136</sup><sub>No. 22, '90; Jan. 11</sub> have called the attention of the Société de Laryngologie, d'Otologie, et de Rhinologie to the anæsthetic properties of antipyrin. They have employed the drug in affections of the throat and larynx, and found that all symptoms of exaggerated sensibility have disappeared under its use. Its anæsthetic effects were corroborated by experiments on the lower animals. The same observations have been made by other authors, notably G. Sée, Gley, and Caravias. The drug appears to be indicated when prolonged anæsthesia is required, as in tuberculous affections and in those in which the reflex movements predominate. Saint-Hilaire employs the follow-

former always inducing a fall. (*f*) The hæmoglobin is in some way affected, so that it cannot be oxygenated to the normal degree. The spectroscope reveals nothing but oxyhæmoglobin. (*g*) The sensory and motor nerves seem absolutely inexcitable to strong electrical stimulus, although the latter may be capable of conveying impulses from the nerve-centres to the muscles. (*h*) The temperature is increased, owing chiefly to a decrease of heat dissipation; heat production may be slightly increased or decreased; cocaine is unable to cause a marked increase of heat production and temperature, as in the normal animal; apparently strychnine, in paralytic doses, paralyzes the hypothetical accelerator heat-centres and leaves intact the automatic heat-centres. (*i*) The paralytic condition caused by large doses of strychnine resembles that produced by curare, but is, in many important ways, entirely distinct.

Before the Second International Congress of Physiologists, Wertheimer <sup>3</sup><sub>Aug. 21</sub> called attention to the energetic vaso-dilator action of strychnine, an action but little known. The author said that, shortly after an intra-venous injection of from 2 to 4 milligrammes ( $\frac{1}{32}$  to  $\frac{1}{16}$  grain) of the sulphate of strychnine, an excessively intense coloration of the mucous membrane of the lips, gums, and tongue is produced. The circulatory activity is such that often an oozing of blood is noticed on the level of the insertion of the teeth into the alveolæ. The congestion is usually manifest shortly after the arterial pressure has attained its maximum, and disappears, together with the fall of the pressure. This phenomenon, the author contends, is easily understood if it is remembered that strychnine acts at the same time on the vaso-constrictor, as well as on the vaso-dilator, centres. Consequently, in regions where the vaso-dilator actions predominate, there these are manifest and totally mask the antagonistic effects. Such happens in the case of the tongue, and of the labio-gingival mucous membrane, as has been shown by the experiments of Dastre and Morat.

*Tannic Acid.*—See Gallic Acid.

*Tea.*—Kraepelin <sup>589</sup><sub>July 11</sub>; <sup>2</sup><sub>Aug. 27</sub> believes, judging from the results obtained in a special investigation, that tea exercises a stimulating influence upon the sensory processes of the brain, which, after a time, become depressed. The drug, however, has no action, or, at least, a very slight influence, upon the motor processes.

*Testicular Fluid.*—In a recent communication to the Académie

mie des Sciences, Brown-Séquard, <sup>286</sup><sub>June 24</sub>, <sup>80</sup><sub>Sept.</sub> gives the results of three years' use of the subcutaneous injections of testicular fluid, especially in old men. The author believes that the sexual glands have at least three distinct uses, consisting, *first*, in their rôle in procreation; *second*, in the influence that certain principles that are absorbed from them have on the nerve-centres, giving the physical, moral, and intellectual characters proper to the sex; *third*, in a special tonic action, which increases certain active powers of the brain and cord. It is this last that is the special subject of Brown-Séquard's study. He insists that the fluid does not act as a stimulant which calls into action pre-existing forces, to be followed by depression, but that it increases the transformation of energy to which are due the various powers of the spinal cord and brain.

*Urechites Suberecta*.—A preliminary study of the physiological action of this plant has been published by Ralph Stockman. <sup>2</sup><sub>June 18</sub>. He finds that the active principle, urechitin, is a poison of a very active kind, which may be included under the digitalis group. Its action on the frog and frog's heart, the effects on dogs, the comparatively large doses required to affect rabbits, and its action on the circulation, point to a similarity between it and all other substances which have been recognized as essentially resembling digitalis in their physiological actions. Urechitoxin may also, for the present, be included in the same group, which is, as now understood by pharmacologists, a pretty wide one, and embraces substances which are certainly not quite identical in action. The differences, however, have not been satisfactorily worked out. Urechitoxin, although essentially a muscle and heart poison, shows certain well-marked peculiarities in its action; these, and the final details of the actions of both substances, Stockman has made no attempt to work out for the present.

*Urechitin*.—See *Urechites Suberecta*.

*Urechitoxin*.—See *Urechites Suberecta*.

*Vicia Sativa*.—From this plant E. Schulze <sup>83</sup><sub>Sept. 27</sub> has obtained the following nitrogenous compounds: Asparagin, glutanin, leucin, amido-valerianic acid, phenylalantin, traces of tyrosin, besides guanadin, cholin, and betain.

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